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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 09/902,321
Inventor (s) : Michael Lee Vatter *et al.*
Filed : July 10, 2001
Art Unit : 1617
Examiner : Gina C. Yu
Docket No. : 8160
Confirmation No. : 8449
Customer No. : 27752
Title : Cosmetic Compositions

DECLARATION UNDER 37 CFR §1.132

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

I, Jorge M. Sunkel, based on information, my own knowledge and belief, hereby declare the following:

1. I am a named-inventor of the above-identified patent application.
2. I received B.S. (1990) and Ph.D. (1998) degrees, both in Chemical Engineering, from the University of Washington and have been employed by the Procter & Gamble Company, assignee of the above-identified application, as a Senior Scientist assigned primarily to the color cosmetic and hair care areas since 1998.
3. I am familiar with the Office Action dated August 3, 2007 for the above-identified application and the art applied in said Office Action.

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4. The droplet size distribution range of the discontinuous phase and the average particle size of the emulsifying crosslinked siloxane elastomer disclosed in above-identified application are not obvious. It is not within the ordinary skill in the art to select the droplet size and particle size disclosed in the claimed composition. The particle size and distribution of the stable multiphase emulsion composition claimed (hereinafter referred to as "emulsifying silicone gel") influence not only droplet size, but also sensory benefits.

For the formation of an emulsion, surfactant molecules such as sodium dodecyl sulfate (MW=289 and just a few Angstroms), position themselves at the oil-water interface to create an emulsion. Depending on the energy input in the form of agitation used to produce these emulsions, the droplets claimed in independent Claim 1 of the above-identified application could be large – having droplet sizes of tens of microns or even a few hundred microns – to very small – having droplet sizes of only a few microns or a fraction of a micron. Relative to a surfactant molecule, the surface area of even the smallest of droplets mentioned above is very large and accessible to a very large amount of surfactant molecules to adsorb at its interface in order to stabilize this drop against coagulation. The surfactant molecules are so small that they can reach and pack the interface forming a thin membrane around the liquid and allowing this to achieve the volume with the smallest surface area, that of a sphere.

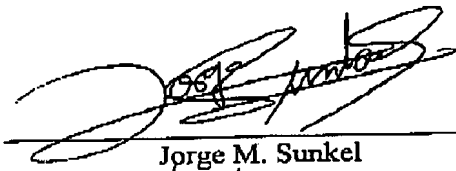
In the case of the emulsifying silicone gels claimed in the above-identified application, these materials are three-dimensional crosslinked polymer networks, swollen with fluid, and of particles sizes that are on the order of microns. The polymers making up these structures are so large that there is no practical way to measure their molecular weight. For all practical purposes their molecular weight is infinite. Due to the polymers' particle size, there are some considerations that a formulator needs to take into account in the making of an emulsion. If the formulation of small droplets – such as droplets 1 mm in diameter, for example – is desired to be made with emulsifying silicone gels then the use of large gels is going to pose a problem. As mentioned above, in order to make an emulsion the emulsifier needs to pack around the droplet interface, and to make one of such a small size, the large gels are going to be unable to form a cavity small enough to stabilize a small drop even in the closest packing configuration. Thus, unlike conventional surfactants, a formulator needs prior knowledge of the physical dimensions of the gel he or she is working with and cannot rely on mixing or agitation energy, for example, to formulate within a given droplet size, because with large emulsifying silicone gel particles, no matter how much or how strong the mixing, ultimately droplets are going to coalesce to a size that the gels can stabilize by packing around the drop.

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Additionally, the claimed emulsifying silicone gels provide a sensory benefit. This benefit comes from the gel particles acting as ball bearing between the skin, thus limiting or preventing skin-to-skin friction. To maintain this benefit, gel particle size is critical, since very small gel particles can allow for skin-to-skin contact, thus creating friction among the skin surfaces. Thus, gel particle size is not only important for droplet size determination, but also for sensory benefits.

In summary, the particle size and distribution of emulsifying silicone gels influence droplet size and sensory benefits. It is not within the ordinary skill in the art to select the droplet size and particle size disclosed in the above-identified application.

5. *I declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States code and that such willful statements may jeopardize the validity of the above-identified application or any patent granted thereon.*



Jorge M. Sunkel
Date: 11/01/07

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